REMARKS/ARGUMENTS

Claims 31 and 41 have been amended to recite the product according to the invention in purely structural terms, rather than by the process by which the product was made. More particularly, the product according to the invention of claim 31 is now recited as a fluorescent film formed as a silicone elastomer in which hydroxyl polydiorganosiloxane and organohydrogen siloxane are cross-linked, and in which luminescent particles are embedded. The product of claim 41 is recited as an irradiation arrangement comprising a low pressure discharge lamp coated with a fluorescent film as recited in claim 31.

Claims 36 and 37 have been cancelled as relating only to a catalyst used in the process. Claim 54 has been amended to correct a clerical error in the dependency, so that method claim 54 now depends from method claim 53.

Claims 31-38, 40, and 53-57 stand rejected as anticipated by Haluska US 5,635,249. To the extent that this rejection would be applied to claims as presently amended, such rejection is traversed for the reasons following.

Haluska relates to a method of forming luminescent coatings on substrates and to the substrates coated thereby. The method comprises applying a coating comprising hydrogen silsesquioxane resin and a phosphor filler on a substrate and heating the coated substrate at a temperature sufficient to convert the hydrogen silsesquioxane resin to a ceramic coating. See the Abstract. The process of Haluska can be used on a substrate where luminescence is desired, such as on flat panel displays, television picture tubes, fluorescent lamps, phosphorescent paints, and the like . See col. 1, lines 62-65. The expression "luminescent coatings" is used to describe coatings containing phosphors which absorb energy and emit electromagnetic radiation in excess of thermal radiation (col. 2, lines 16-19).

A thermally and chemically stable substrate is needed for coating (col. 1, lines 56-58). The process temperature is in the range of 50 to 1000 C depending on the pyrolysis atmosphere (col. 5, lines 19-20). Note that 50 C is 122 F, which is well above room temperature. The expression "ceramic coating" is used to describe the hard coating obtained after heating the hydrogen silsesquioxane - phosphor filler composition. This coating contains both amorphous silica (SiO_2) materials as wells as amorphous silica-like materials that may also contain residual carbon, silanol (Si-OH) and/or hydrogen (which are obtained upon heating the hydrogen silsesquioxane) and the phosphor filler materials (col. 1, line 66 to col. 2, line 6).

Haluska neither discloses nor suggests a film formed as a silicone elastomer, which can be used without any substrate. There is likewise no suggestion of a silicone elastomer in which hydroxyl polydiorganosiloxane and organohydrogen siloxane are cross-linked, as recited in Applicant's claim 31. There is an enormous difference between ceramic coatings containing silica, and silicone elastomers in general. Silica is in fact silicon dioxide, which is an inorganic crystalline compound. The properties which Haluska attributes to silica, i.e. "hard" and "ceramic", are determined by the chemical structure and are well known.

In contrast, a silicone is a synthetic polymeric compound based on the structural unit R_2SiO, where R is an organic group. The silicon and oxygen atoms are chain-linked and the silicon can be linked to hydrogen or carbon in the R group. An elastomer is a polymer having the elastic properties of natural rubber (American Heritage Dictionary). The silicone elastomer as recited in claim 31 falls within these definitions; it contains cross-linked units of the starting substances, i.e., hydroxyl polydiorganosiloxane and organohydrogen siloxane.

From the foregoing it will be apparent that Haluska is directed to a totally different product than that recited in claim 31; there is no suggestion whatsoever of a silicone elastomer having the cross-linked compounds claimed.

With respect to claim 32, the Examiner notes that the claim limitation "wherein the hydroxyl polydiorganosiloxane comprises various polymers with a minimum viscosity of 1000 centipose at 25 degrees Celsius" further limits the recited process. However claim 31 no longer recites process limitations, and claim 32 recites the physical properties of one of the two cross-linked compounds, so this rejection is no longer felt to be valid.

With respect to claim 33, the examiner notes that the claim limitation to the specific composition of the hydroxyl polydiorganosiloxane is also a process limitation. However claim 33 recites the specific composition of one of the cross-linked compounds recited in claim 31, and therefore represents a valid structural limitation of a product claim.

With respect to independent method claim 53, the examiner states that Haluska discloses a luminescent film formed from a hydridosiloxane resin and phosphor particles (col. 2, lines 25-44 and 55-56). The relevance of this statement is not misunderstood, because the use of hydridosiloxane does not suggest mixing hydroxyl polydiorganosiloxane and organohydrogen siloxane, and does not produce a silicone elastomer. Rather, as clearly stated at col. 2, lines 20-25, the hydridosiloxane resins are used to produce a ceramic coating on a substrate. The Haluska reference does not remotely suggest the method recited in claim 53.

Independent apparatus claim 41 stands rejected under 35 USC 103 as being unpatentable over DeBoer US 5,051,653 in view of Haluska. This rejection is traversed for similar reasons as claim 31. That is, while DeBoer does disclose a low pressure discharge lamp, Haluska does not discloe or suggest a fluorescent film formed as a silicone elastomer. Rather, Haluska relates

exclusively to a hard ceramic coating which does not contain hydroxyl polydiorganosiloxane and organohydrogen siloxane which are cross-linked.

The allowance of claim 60, and the allowability of claims 43-47, 50, 51, and 54, are noted with appreciation. In view of the foregoing arguments, however, it is believed that independent claims 31, 41, and 53 as presently amended distinguish patentably over the prior art of record, wherefore withdrawal of all rejections and early allowance are most earnestly solicited. If any objections remain, a call to the undersigned is requested.

It is believed that no fees or charges are required at this time in connection with the present application; however, if any fees or charges are required at this time, they may be charged to our Patent and Trademark Office Deposit Account No. 03-2412.

Respectfully submitted,

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